

**REMARKS**

Claims 1-18 are pending in this application. Claim 15 has been amended by the present Amendment.

**CLAIM OBJECTION**

Claim 15 has been objected to because "signalsof" should be "signals of". Applicant has amended claim 15 in accordance with the Examiner's suggestion to correct the inadvertent typographical error.

**REJECTION UNDER 35 U.S.C. § 101**

Reconsideration is respectfully requested of the rejection of claims 1-18 under 35 U.S.C. § 101. The Examiner maintains that "the claims disclose to manipulate only number, abstract concepts or ideas or representing any of the foregoing, the claims are not being applied to an appropriate subject matter".

Applicant respectfully disagrees with the Examiner, and submits that the Examiner's rejection under section 101 is legally deficient, and that claims 1-18 are drawn to appropriate subject matter.

***The Examiner's Rejection Is Legally Deficient***

At the very least, the Examiner has not made a *prima facie* showing that independent claims 1-18 recite non-statutory subject matter. In formulating the rejection, the Examiner fails to follow the guidelines set forth in MPEP 2106. As noted in section 2106 II A of the M.P.E.P.:

Office personnel have the burden to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101. . . . Further, when such a rejection is made, Office personnel must expressly state

how the language of the claims has been interpreted to support the rejection. (Emphasis added.)

Moreover, as set forth in various portions of MPEP 2016 (II) (C), the Examiner must first determine the scope of a claim by thoroughly analyzing the language of the claim before determining if the claim complies with each statutory requirement for patentability. When evaluating the scope of a claim, every limitation in the claim must be considered.

Here, the Examiner failed to perform any analysis whatsoever of the claims, and merely recites a conclusory statement that the claims are directed to abstract concepts. Indeed, the Examiner fails to consider, and simply ignores, the actual claim language in its entirety.

Accordingly, the Examiner (1) did not expressly state how the language of the claims has been interpreted; (2) did not thoroughly analyze the claim language; and (3) did not consider every limitation of the claims. As such, Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result.

For at least this reason, the rejection under section 101 should be withdrawn.

*Claims 1-18 Are Directed To Statutory Subject Matter*

Claim 1, *inter alia*, recites a fractional-N frequency synthesizer, comprising a phase detector, a voltage controlled oscillator, a divider, and a sigma-delta modulator. Similarly, claim 16, *inter alia*, recites a frequency synthesizer, comprising a phase detector, a voltage controlled oscillator, a divider, and a modulator. Claim 9 recites,

*inter alia*, a sigma-delta modulator comprising a plurality of operation units, a quantizer, and a plurality of multipliers.

Claims 1 and 16 define structural and functional interrelationships of the elements of a frequency synthesizer circuit, and are thus statutory. For example, the circuit includes a multi-bit modulator that quantizes an accumulated value to multiple levels, and converts the quantized value into a predetermined selection signal, which is output to the divider.

Similarly, claim 9 defines the structural and functional relationships of the elements of the sigma-delta modulator used in the frequency synthesizer circuit, and is thus statutory. For example, the modulator includes a plurality of operation units which add input values to internal feedback values, a quantizer which quantizes an accumulated value output from a last one of the operation units, and multipliers that output feedback coefficients as feedback values to the operation units.

In formulating the 101 rejections, the Examiner seemingly fails to fully consider that the subject matter of claims 1, 9 and 16 relates to the well known, specific and practical application of synthesizing frequency and circuits and components for performing same. Indeed, the USPTO even has accorded a specific classification for claimed subject matter. See, e.g., class 455/260 ("phase-lock loop or frequency synthesizer").

Accordingly, claims 1-18 are directed to statutory subject matter.

For at least the above reasons, the Examiner's finding of non-statutory subject matter is improper as a matter of law and fact and the 101 rejections should be withdrawn.

**REJECTION UNDER 35 U.S.C. § 112**

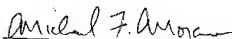
Reconsideration is respectfully requested of the rejection of claims 1-18 under 35 U.S.C. § 112, first paragraph. Specifically, the Examiner maintains that "since the claimed invention is not supported by either an asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention."

As stated above, the claimed embodiments are directed to the well known, specific and practical application of synthesizing frequency, which is so well-established that the USPTO has developed a specific classification for same.

Accordingly, Applicant respectfully submits that one of ordinary skill in the art would clearly know how to implement the claimed circuit or components thereof, and requests that the Examiner withdraw the rejection of claims 1-18 under 35 U.S.C. § 112.

An early and favorable reconsideration is earnestly solicited. If the Examiner has any further questions or comments, the Examiner may telephone Applicant's Attorney to reach a prompt disposition of this application.

Respectfully submitted,



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